

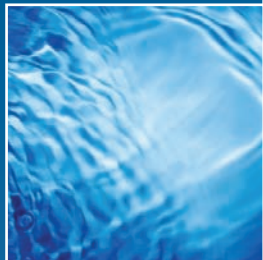
SALINITY



A Critical Concern for the Central Valley and California Water



SALINITY IS AN INCREASINGLY CRITICAL WATER-QUALITY AND SUPPLY CONCERN FOR THE CENTRAL VALLEY AND THE DELTA. SALINITY IMPACTS WATER USED FOR DRINKING, FARMING, INDUSTRY, THE ENVIRONMENT AND RECREATION IN THE VALLEY AND ALL OF CALIFORNIA.



WATER AND SALT

All water supplies contain some salt. Salts come in different chemical forms and from different sources, but all are difficult to remove once in the water.

Water as rain and snow falls almost free of salt but begins picking up salts from the ground. Plants and other life extract the water but leave the salt in the remaining water. When water is used for any purpose, urban or agricultural or others, salt is added. Much of the precious water in California is used more than once as it moves through the natural watersheds and the salts increase with each usage. Depending on the source of the water it may start out with more or less salt, water transported through the San Francisco Bay Delta picks up salts from seawater, and other sources, in the Delta and those salts then become stranded in inland basins.



THE THREAT

Left untreated and unplanned, the salinity increasing in the Tulare, San Joaquin and rest of the Central Valley will:

- Significantly limit water resource management options especially during droughts
- Squeeze the productive life out of the soils for agriculture, reducing profitability of commodity crops and related businesses
- Impair surface and groundwater used for drinking, farming, industry, the environment and recreation
- Endanger the economic vitality of the Central Valley and limit or stall business and residential growth
- Increase the costs of urban drinking water and wastewater treatment
- Increase the cost to business for water related compliance
- Reduce the useful life of water pipes, appliances and equipment

The economy of the Central Valley provides nearly 3 million jobs and generates nearly \$90 billion in annual taxable sales and the region is home to more than 6.5 million residents.¹

The recent Economic and Social Cost Study conducted by UC Davis indicates that over 15.5 million tons of salt are brought into or mobilized in Central Valley waters each year from all sources. This amount is forecast to grow by over 1 million tons per year by 2030. The quantity that ends up accumulating in the soils and groundwater is much smaller but has started to cause serious problems. The study forecasts the annual cost of not addressing this salt accumulation at \$544 million dollars by 2030 due to lost agricultural production and \$579 million in damage to pipes, pumps, water heaters and other equipment. Salt, the commodity that drove old economies around the world for more than 500 years, may become a billion dollar factor in the economy of the Central Valley by 2030.

IS THIS ONLY A PROBLEM IN THE CENTRAL VALLEY?

Salinity is a critical problem throughout the state. In the densely urban coastal areas of California, salinity is frequently caused by ocean saltwater intrusion, a serious problem that can destroy beach city water supplies and coastal agriculture. The inland areas of California face a far different salinity problem. Imported or pumped water supplies, needed to satisfy domestic needs and to drive the economic activity of California, brings with it salt that stays in the soil and is eventually pushed down until it enters the groundwater. The groundwater concentration of salt increases until it can no longer meet beneficial uses including for agriculture and drinking. Other areas across California are dealing with salt problems; some have developed systems to export salt to the ocean.



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¹ Department of Finance E-2 Report 2006-2007

IS THERE A SOLUTION?

There are many solutions in dealing with salt problems, but none are easy or quick to resolve. To help, the Salinity Policy Group has been formed, bringing together leaders from the Central Valley Regional Water Quality Control Board and area stakeholders to help determine the best methods to address the problem. This group needs your support and involvement to scope and prepare the studies needed to find the most efficient way to manage salts and provide the Regional Board with data and research that reduce salts and maintain economic viability.

Some of the most advanced salt management techniques known are being employed in the Central Valley to manage salt in the Tulare Lake Basin and other areas in the San Joaquin Valley. These solutions include:

- On-farm water reuse and salt precipitation
- Reverse osmosis concentration and truck disposal to existing ocean outfalls
- Brine reinjection into oil extraction areas
- Water management and source water replacement
- Current source control for salts going into the domestic sewers

These efforts and others need to be coordinated and implemented in a cost-effective manner by stakeholders across the Central Valley to begin to reverse the accumulation of salt. In many instances, grants or loans are available to fund or subsidize desalinization and related projects.

Further study and regional cooperation are keys to resolving this issue. Water supply agencies across the region need to be more involved and work together with the other stakeholders to lead further studies and efforts towards developing cost-effective solutions. Most plans will take more than 20 years to implement and will cost millions of dollars. By working together, water agencies and stakeholders can come up with innovative ways to solve the problem through cost-effective means.

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THE PRIMARY SOLUTION

The solution lies in developing a cooperative, large-scale, multi-solution salt management plan for the Central Valley, which will maximize the use of its water resource, continue to grow smartly, and maintain the business and agricultural economy that is vital to the state.

Funding is needed to continue the efforts of the Salinity Policy Group to develop a Central Valley plan over the next three years. Without funding for future planning, the Central Valley will continue to experience obstacles in dealing with its salinity problems: extreme regulatory costs, permit moratoriums and difficulties accommodating new industry and residences.

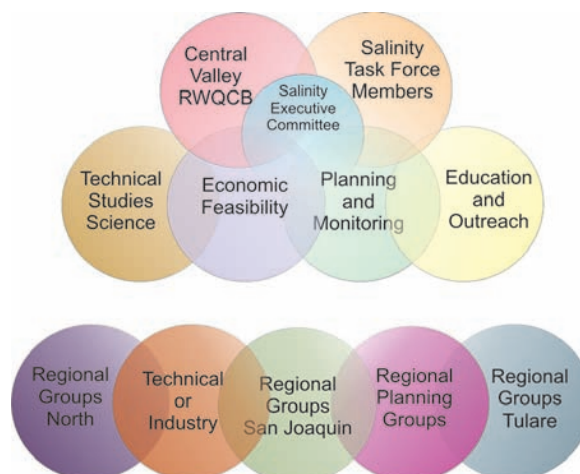


Photo: Dale Oliver



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What Can You Do To Help?

Individuals, organizations and businesses can help take important policy steps toward solutions by participating in the process and by creating plans significantly limiting the salt they use including:



- Use water efficiently: conserving water reduces the water imported and the salt it brings
- Encourage the use of lower salt products and processes
- Encourage water treatment or softeners that do not discharge salt
- Spread the word, help with outreach and education about salinity
- Support your local water supplier and waste water agency in addressing salinity
- Fund regional efforts to address salinity sources and manage salts

For more information on Salinity in the Central Valley visit the CV SALTS website at www.waterboards.ca.gov/centralvalley/water_issues/salinity/index.html and you can sign up for email updates on its activities or call: (916) 464-3291 or mail 11020 Sun Center Driver #200, Rancho Cordova, CA 95670-6114

